

WHAT IS CLAIMED IS:

1. A resistor having a desired temperature coefficient of resistance and a total electrical resistance, comprising:
a first resistor segment having a first temperature coefficient of resistance and a first electrical resistance, and
5 a second resistor segment having a second temperature coefficient of resistance and a second electrical resistance,
the first resistor segment electrically connected in series with the second resistor segment, the total electrical resistance equaling a sum of the first electrical resistance and the second electrical resistance, and the desired temperature
10 coefficient of resistance determined at least in part by the first temperature coefficient of resistance and the first electrical resistance of the first resistor and the second temperature coefficient of resistance and the second electrical resistance of the second resistor.
2. The resistor of claim 1 wherein the first temperature coefficient of resistance is a negative temperature coefficient of resistance and the second temperature coefficient of resistance is a positive temperature coefficient of resistance.
3. The resistor of claim 1 wherein the desired temperature coefficient of resistance is about zero.
4. The resistor of claim 1 wherein the first resistor segment is an unsilicided polysilicon resistor segment.
5. The resistor of claim 1 wherein the second resistor segment is a silicided polysilicon resistor segment.
6. The resistor of claim 1 wherein the second resistor segment is a polysilicon resistor segment that is silicided with a metal halide.
7. The resistor of claim 1 wherein at least one of the first resistor segment and the second resistor segment is substantially rectangular.

8. The resistor of claim 1 wherein at least one of the first resistor segment and the second resistor segment is substantially serpentine.
9. The resistor of claim 1 wherein the first electrical resistance of the first resistor segment is related to the second electrical resistance of the second resistor segment according to:

$$\frac{R_1}{R_2} = \left| \frac{TCR_2}{TCR_1} \right|,$$

- 5 where R_1 is the first electrical resistance of the first resistor segment,
 R_2 is the second electrical resistance of the second resistor segment,
 TCR_1 is the temperature coefficient of resistance of the first resistor segment, and
 TCR_2 is the temperature coefficient of resistance of the second resistor
 10 segment.

10. The resistor of claim 1 wherein the total electrical resistance R_T is determined by:

$$R_T = R_2 \times \left(\left| \frac{TCR_2}{TCR_1} \right| + 1 \right).$$

- 5 where R_T is the total electrical resistance of the resistor,
 R_2 is the second electrical resistance of the second resistor segment,
 TCR_1 is the temperature coefficient of resistance of the first resistor segment, and
 TCR_2 is the temperature coefficient of resistance of the second resistor segment.

11. The resistor of claim 1, wherein the resistor is formed as a part of a standard CMOS process flow for an integrated circuit.
12. An integrated circuit, the improvement comprising the resistor of claim 1.

13. A resistor having a desired temperature coefficient of resistance, comprising:
a polysilicon layer having:

a first unsilicided resistor segment having a first electrical resistance and a
negative temperature coefficient of resistance, and

- 5 a second silicided resistor segment having a second electrical resistance
and a positive temperature coefficient of resistance, the second
segment electrically connected in series with the first segment,
where the second electrical resistance is related to the first
electrical resistance according to:

10
$$\frac{R_1}{R_2} = \left| \frac{TCR_2}{TCR_1} \right|,$$

where R_1 is the first electrical resistance of the first resistor
segment,

R_2 is the second electrical resistance of the second resistor
segment,

- 15 TCR_1 is the negative temperature coefficient of resistance
of the first resistor segment, and

TCR_2 is the positive temperature coefficient of resistance of
the second resistor segment.

14. The resistor of claim 13, wherein the resistor is formed as a part of a standard
CMOS process flow for an integrated circuit.
15. An integrated circuit, the improvement comprising the resistor of claim 13.
16. A method for fabricating a resistor having a desired temperature coefficient of
resistance and a total electrical resistance, comprising:
- (a) forming a first resistor segment having a first temperature coefficient of
resistance and a first electrical resistance,

- 5 (b) forming a second resistor segment having a second temperature coefficient of resistance and a second electrical resistance, and
- (c) electrically connecting the first resistor segment in series with the second resistor segment,
- 10 (d) where the total electrical resistance equals a sum of the first electrical resistance and the second electrical resistance, and the desired temperature coefficient of resistance is determined at least in part by the first temperature coefficient of resistance and the first electrical resistance of the first resistor and the second temperature coefficient of resistance and the second electrical resistance of the second resistor.
17. The method of claim 16 wherein the first temperature coefficient of resistance is a negative temperature coefficient of resistance and the second temperature coefficient of resistance is a positive temperature coefficient of resistance.
18. The method of claim 16 wherein the desired temperature coefficient of resistance is about zero.
19. The method of claim 16 wherein the first resistor segment is a polysilicon resistor segment that is silicided with a metal halide and the second resistor segment is an unsilicided polysilicon resistor segment, and the resistor is formed as a part of a standard CMOS process flow.
20. An integrated circuit having a resistor fabricated according to the method of claim 16.